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BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE
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In Cooperation with State, Federal and other Agencies

COTTON INSECT CONDITIONS FOR WEEK ENDING JULY 20, 1946
(Eighth Cotton Insect Survey Report for 1946)

In general this was another good week for cotton--but conditions varied greatly in different areas. Hot, dry weather checked the weevils over large areas in Texas and Oklahoma, but local rains in many places and mild temperatures in the Atlantic States were favorable for the weevils. The boll weevil infestations in Georgia and South Carolina are general as weevils were found in all fields examined, but there were few fields with very heavy infestations, that is with over 50% of the squares punctured. In the States to the West--and especially in Louisiana, Texas and Oklahoma--a much larger proportion of the fields have more than 50% of the squares punctured.

It is important for all who are interested in boll weevil control--that is in reducing the losses caused by the weevil and increasing the yields and improving the quality of the cotton--to keep in mind that much can be accomplished by dusting late in the season. Many bolls and locks can be saved. As long as there are bolls to be saved and the weevils are numerous it is usually profitable to continue dusting. Much can be gained by dusting late in the season, even though no early dusting was done.

The cotton leafworm has now been reported in 23 counties in Texas. The leafworm situation is not yet serious.

Webworms are causing serious damage in a few counties in Oklahoma and Texas. Cotton growers should be on the lookout for them.

BOLL WEEVIL

TEXAS: Hot, dry weather prevailed throughout the State. At Waco in central Texas, maximum temperatures ranged from 97° to 105° F. with an average of 100° F. There was no rain. Generally, the weather was beneficial to cotton with a considerable decrease in weevil infestation, but rains are now needed. The infestation in 486 fields in 62 Texas counties averaged 38%. No infestation was found in 7% of the fields. In 18% of the fields the infestation was from 1 to 10%; in 18% it was from 10 to 25%; in 23% it was from 25 to 50%; and in 34% the infestation was more than 50% punctured squares. The average boll weevil infestation in 23 fields in McLennan and adjoining counties was 34% as compared to 49% the previous week. Two weeks ago the average infestation was 71%. Much poisoning is being done in this area for weevil control. The average infestation in 51 fields in nine eastern counties was 55%. In 187 fields in 17 counties in north central Texas the average infestation was 47%. Many fields in Coastal and Southern counties need calcium arsenate to protect the top crop from weevils.

OKLAHOMA: Hot, dry weather was unfavorable for weevil in the cotton-producing areas of the State. Temperatures of 100° F. or above, occurred in most areas. Cotton made good growth and is setting squares rapidly. Weevil infestations remained high in the larger cotton that furnished protection

from the high temperatures and in fields not dusted with calcium arsenate. More farmers are now dusting for weevil control than ever before. The average boll weevil infestation in 145 fields in 17 counties was 28%. In 6% of the fields no infestation was found. In 27% the infestation was from 1 to 10%; in 23% it was from 25 to 50%; and in 21% the infestation was more than 50%. The infestations are still spotted as fields were examined in Caddo, Grady, Logan and Pawnee Counties that were free of weevils. Fields with more than 50% punctured squares were reported in Logan, Okfuskee, Oklahoma, Pottawatomie, Seminole, Hughes, Comanche, Cotton, Coal, Jefferson, Johnston, Pontotoc, and Stephens Counties.

LOUISIANA: Weather conditions were favorable for weevil development throughout the State. Calcium arsenate sales continue to increase but additional supplies have been shipped in from areas where it is not needed. The demand for calcium arsenate-nicotine mixtures exceeds the supply.

The average boll weevil infestation in 222 fields in 18 counties in Louisiana was 49%. In 2 fields no weevils were found. In 8% of the fields the infestation was less than 10%; in 11% of the fields it was from 10 to 25%; in 34% it was from 25 to 50%; and in 46% of the fields the infestation was more than 50%.

ARKANSAS: Weather conditions were variable but in general it was favorable for weevils and crop growth. The average infestation in 48 fields in southeastern Arkansas was 15%. In 18% of the fields less than 1% infestation was reported. In 23% of the fields the infestation was from 1% to 10%; in 34% it was from 10% to 25%; in 24% it was from 25 to 50%; and in only one field were more than 50% of the squares punctured.

MISSISSIPPI: Dr. Clay Lyle reported 134 of 207 fields examined in 34 counties had weevils, with an average of 18% punctured squares in the infested fields and an average of 12% infestation for all fields. No shortages of calcium arsenate and nicotine-calcium arsenate mixtures were reported. It is estimated that 600 airplanes are now available for dusting cotton in Mississippi.

Weather conditions for cotton production have improved but local showers were widespread in the Delta Counties. In the examination of 129 fields in 13 Delta counties no weevils were found in 59 fields. All of the 21 fields examined in Issaquena, Warren and Yazoo Counties were infested, the infestations ranging from 6% to 90% punctured squares. Heavy infestations were also reported in Holmes, Sharkey and Washington Counties. However, none of the 14 fields examined in Coahoma and Quitman Counties had any weevils, and only one of the 10 fields examined in Tallahatchie County had weevils. A large planting company in Bolivar County reports that weevils were found in 287 of 288 fields examined. In 3 of these fields more than 50% of the squares were punctured and in 23 fields the infestations ranged from 30 to 50%. The weevils have increased rapidly. "Some lice are showing up and many fields show hopper damage, also some bollworm. Have started dusting."

ALABAMA: W. A. Ruffin, Extension Entomologist, wrote on July 22: "During the past week I visited five counties in West Alabama. The weevil infestation ranged from an average of 18% in Pickens County to 65% in Green County. One large field of cotton in Elmore County was inspected and the infestation there averaged 41%. Some farmers say that the weevil infestation is worse than it has been since 1916. In fact, weevils in numbers were reported last week in the Tennessee Valley area."

"Farmers are dusting cotton at the present time in most parts of the State. So far they have been able to obtain calcium arsenate in needed quantities. Showers continue to fall over most parts of the State. The indications are that weevils will cause more damage to cotton this year than any year since 1941."

GEORGIA: Mild temperatures and local showers were favorable for weevils over most of the State. Cotton in the southern half of the Coastal Plain section is approaching maturity. In the northern half of the Coastal Plain, cotton is still fruiting heavily. Weevil infestations continue to be serious throughout most of the State. The average infestation in 120 fields in 40 counties was 27%. No fields were free of weevils. In 7% of the fields the infestation was from 1 to 10%; in 28% it was from 10 to 20%; in 30% it was from 20 to 30%; in 16% it was from 30 to 40%; in 11% it was from 40 to 50%; and in 8% of the fields the infestation was more than 50%. The highest infestation was 79% in one field in Oconee County.

SOUTH CAROLINA: Unseasonably mild temperatures and scattered showers prevailed throughout the State. At Florence maximum temperatures ranged between 81° F. and 90° F. and the minimum temperatures ranged between 56° F. and 73° F. Ideal conditions for boll weevil development have prevailed in most sections for the past three weeks. Crops in general are in a good state of cultivation. In the Piedmont cotton is approaching the peak of fruiting and prospects are that more boll weevil injury will occur in this area of the State than in others, particularly in Anderson and Spartanburg Counties.

The average boll weevil infestation in 137 fields in 19 counties was 20%. Weevil infestation was found in all fields examined. In 22 fields the infestation was less than 10%; in 78 fields it was from 10 to 25%; in 33 it was from 25 to 50%; and in four fields the infestation was more than 50%.

NORTH CAROLINA: Weather conditions continued favorable for weevil development. Mild temperatures and scattered showers prevailed over the cotton-producing areas of the State. The average boll weevil infestation in 100 fields in 15 of the southern and eastern counties was 19%. In 22 fields no infestation was found. In 21 fields the infestation was from 1 to 10%; in 31 it was from 10 to 25%; in 13 fields it was from 25 to 50%; and in 13 fields the infestation was over 50%. The range of average infestation was from 5% in Green County to 72% in Scotland County. The Counties of Nash, Halifax, Northampton, Hertford, Edgecombe and Green were all below 10% and the prospects are that these counties will escape serious weevil damage, but the situation in Scotland County appears critical. High infestations were also reported in Hoke, Wayne, Robeson, Cumberland, and Harnett Counties.

VIRGINIA: One field examined near Holland, Nansemond County, had 2% punctured squares. (Reported by Dr. J. M. Grayson.)

COTTON LEAFWORM

Cotton leafworms are scattered throughout southern Texas and have spread as far north as Waco. They have been reported from 23 counties. New infestations during the week were found in Austin, Colorado, De Witt, Fayette, Falls, Goliad, Jackson, Matagorda, McLennan, Washington, Wharton and Williamson Counties. L. F. Greer of this bureau reported pupae of the cotton leafworm on July 18 near Fallettsville, Lavaca County.

This year no leafworms were found in the United States until June 7. As a matter of record, the infestations discovered during June were as follows:

<u>Date</u>	<u>County</u> (Texas)	<u>Location</u>	<u>Found by</u>
June 7	Cameron	7 mi. W. San Benito	Louis M. Conn
18	Jim Wells	2 mi. S.W. Alice	F. D. Bittner
21	Willacy	10 mi. E. Lyford	R. L. McGarr
28	Nueces	10 mi. S.W. Corpus Christi	L. F. Greer
28	Aransas	9 mi. N. Gregory	Otis Nicholson

BOLLWORM

A serious bollworm infestation has developed in the Santa Cruz Valley south of Tucson, Ariz. Approximately 2,000 acres will be dusted immediately for their control.

Bollworm infestations are widespread throughout central Texas, with medium to heavy damage in many fields. Infestations are developing in both early and late-planted cotton. Some dusting is being done for their control. The bollworm population in cotton fields near Waco is much higher than during the same week in 1941, 1944 and 1945, and is about the same as it was in mid-July in 1942 and 1943. In the examination of 15,400 squares in 13 fields an average of 4.8% were injured by bollworms, the range being 0.5% to 19.7% injured squares. In the examination of 16,900 cotton terminals in 23 fields an average 5.8 worms per 100 terminals were found, the range being 0 to 23. Scattered light to heavy infestations occur in the Coastal Bend and extend to north Texas.

COTTON APHID

TEXAS: Light to heavy infestations in many fields in the Waco area. In old cotton the infestations generally follow calcium arsenate dusting, but infestations occur on young cotton that has not been dusted.

Aphids have been reported from all states, but thus far serious damage has not occurred.

COTTON FLEA HOPPER

TEXAS: The cotton flea hopper is about out of the picture as a damaging insect. In the examination of 472 fields in 65 counties only 5 fields had more than 25 flea hoppers per 100 terminals, while 435 fields had less than 10 flea hoppers per 100 terminals.

INSECTS ON IRRIGATED COTTON OF SOUTHWEST

Stinkbugs, Lygus bugs and other hemipterous insects that attack cotton in the irrigated sections of the Southwest increased in the Salt River and Santa Cruz Valleys and in the Casa Grande area of Arizona. While populations are below normal generally at this time, much dusting has been done for their control. Damaging numbers of hemipterous insects, principally Lygus were reported in cotton fields adjacent to alfalfa grown for seed in the El Paso

Valley of Texas. Some dusting with DDT-sulfur mixtures will be done for their control.

MISCELLANEOUS INSECTS

WEBWORMS: Webworms are causing serious damage to cotton in Oklahoma and Texas. Specimens of these insects have not been determined, but they probably belong to Loxostege, the genus that includes the notorious garden webworm, alfalfa webworm, and sugar beet webworm. Stirling Kyd, Associate Extension Entomologist of Oklahoma, reported June 17 that approximately 30,000 acres of cotton in Caddo County were infested with webworms. In the Oklahoma Cotton Insect Report for the week ending July 20, 1946, C. F. Stiles and Stirling Kyd report webworms as seriously damaging cotton in Caddo, Custer, Jackson and Washita Counties in southwestern Oklahoma. On one farm in Limestone County in central Texas, 125 acres of cotton have been destroyed by webworms and 150 acres badly damaged in spots. The county agent reported additional infestations.

RAPID PLANT BUG: Light to medium infestations were reported from many fields in central Texas.

GRASSHOPPERS: Continued to cause some damage along the edges of many cotton fields in central Texas.

RED SPIDER: Heavy infestations were reported in two fields in Florence County, S. C.

July 24, 1946

